



CURRICULUM VITAE

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Personal Born February 28, 1933 New York, New York
 Married Marion Sue Hersch July 3, 1955 (3 children)

Education 1950-1954 City College of New York, BS Magna Cum Laude (Chemistry)
 1954-1957 Columbia University, PhD (Physical Chemistry)
 1957-1959 Cambridge University, England, PhD (Colloid Science)

Academic Appointments

1954-1955 Assistant in Chemistry, Columbia University
1955-1957 Research Fellow (Chemistry), Columbia University
1957-1959 Postdoctoral Research Fellow, Cambridge University, England
1959-1964 Instructor in Physiology, Columbia University
1964-1968 Assistant Professor of Physiology, Columbia University
1968-present Associate Professor of Physiology and Cellular Biophysics, Columbia University

Other Appointments

Summer 1956 Chemist, California Research Corp. Richmond, CA.
Summer 1957 Chemist, Esso Research and Engineering Co., Linden, NJ.
Fall 1961 Research Fellow, Cambridge University, England
Summer 1964 Chemist, Unilever Research Lab, Cheshire, England
Summer 1966 Visiting Scientist, Polymer Dept, Weizmann Institute, Israel
Summer 1967 Chemist, Unilever Research Lab, Hertfordshire, England
Summer 1968 Visiting Scholar, Bioengineering Dept, University of California, Berkeley
Summer 1969 Research Chemist, Unilever Res Lab, Vlaardingen, Netherlands
1970 Visiting Professor, Pharmacology Dept, Hebrew University, Israel
1974-1975 Physiologist, Office of Naval Research, London, England
1982 (6 mo.) Visiting Lecturer, Biochemistry Dept, Monash University, Australia
1984-1985 Biologist, Office of Naval Research, Arlington, VA
1986-1988 Part-time IPA Biologist, Office of Naval Research, Arlington, VA
1989 (May) Visiting Professor, Acad Sci USSR, Inst Electrochemistry, Moscow, and
 Dept of Biophysics, Univ of Warsaw, Poland
1992 (Nov) Visiting Professor, Tata Institute, Bombay, India
1995 (spring) Visiting Professor, Dept of Chemistry, University of the Negev, Beersheba, Israel
 Visiting Scientist, Dept of Biology, University of Victoria, BC, Canada

Honors

- 1953 Elected to Phi Beta Kappa, City College
 1956 Elected to Sigma Xi, Columbia University
 1955-1957 Consumers Union Research Fellowship, Columbia University
 1957-1959 Postdoctoral Research Fellowship, National Heart Institute, Cambridge University
 1960-1970 Research Career Development Award (NIH), Columbia University
 1975 Certificate of Appreciation, Office of Naval Research, London
 1982 (June) Distinguished Visiting Professor, Univ Western Australia
 1984 Distinguished Lecturer in Physiology, Wayne State University
 1985 Certificate of Commendation, Office Naval Research, Arlington
 1987 Invited Lecturer, International Biophysics Congress, Jerusalem
 1988 Invited Lecturer, Univ of Bologna, 900th Anniversary Symposium
 1989 (May) Visiting Professor, Acad Sci USSR, Institute of Electrochemistry, Moscow
 and Dept of Biophysics, University of Warsaw, Poland
 1990 Certificate of Appreciation, The Electrochemical Society
 Yasuda Award, Bioelectrical Repair and Growth Society
 1992 Invited Opening Speaker, First Congress of European Bioelectromagnetics Association,
 Brussels, Belgium
 (Nov) Visiting Professor, Tata Institute, Bombay, India
 1992-1993 Editor-in Chief, Proceedings, First World Congress on "Electricity and Magnetism in
 Biology and Medicine"
 1993 American Editor, "Bioelectrochemistry and Bioenergetics"
 Certificate of Appreciation, American Chemical Society, Environment Division
 1995 (spring) Visiting Professor, Dept of Chemistry, University of Beersheba, Israel
 Visiting Scientist, Dept of Biology, University of Victoria, BC, Canada
 1997 Plenary Lecturer, Second World Congress on "Electricity and Magnetism in Biology and
 Medicine", Bologna, Italy

Areas of Research**General Experimental and Theoretical Areas:**

Electromagnetic field effects on cells (stress response, enzyme reactions, DNA)

Membranes and transport mechanisms (active, passive, excitation mechanisms)

Biopolymers (surface and electrical properties of proteins, DNA)

Theoretical Models of Processes in Membranes and Biopolymers:

Electric and magnetic field effects in electron transfer reactions, enzymes, channels, DNA

Ion fluxes in excitable membranes and ion gating

Cooperative reactions in membranes, hemoglobin

Specific Biological Systems:

Na,K-ATPase and cytochrome oxidase (effects of ions and EM fields)

Proteins (hemoglobin, red cell membrane, lung surfactant, Sciara salivary gland proteomics)

Cells (re blood cells, sperm cells, HL60, Sciara salivary gland, E. coli)

Membranes (red cells, sperm cells, enzymes)

Interfaces, Monolayers (proteins, lipids, ions), Bilayers:

Permeability (to water, gases, ions) and Rheology (elasticity, yield stress, flow)

Electrical Effects: Adsorption, Electrode Noise, Surface Potential

Teaching

Faculty of Medicine - College of Physicians and Surgeons, Columbia University

Medical Physiology - from 1961 to 1991

Lectures- physical biochemistry, membranes, transport.

Demonstrations- membrane properties, lung surfactant, analog computer.

Laboratory teaching including mammalian experiments.

Course Director, 1989-1990

Computerized syllabus and administration (30 faculty, 310 students)

Introduced lab reports and new lab exercise

Faculty of Pure Science - Graduate School of Arts and Sciences, Columbia University

Basic Principles in Membrane Biophysics - Physical biochemistry,
membranes, electrical properties, ion transport (1970-2001)

Membrane Biophysics - Surfaces, membranes, channels, model systems.

Graduate Seminar - Basic papers on membranes and transport.

Control Mechanisms in Physiology - Lectures and lab on analog computer.

Principles of Physiology - Lectures on biophysics (membranes, biopolymers)

Ettore Majorana Center, Erice, Italy-International School of Biophysics

1981 Bioelectrochemistry I: Redox Processes

1984 Bioelectrochemistry II: Membrane Phenomena

1988 Bioelectrochemistry III: Charge Separation Across Biomembranes

1991 Bioelectrochemistry IV: Nerve-Muscle Function

National Medical School Review

Lectures on Membranes, Nerve, Muscle

City University of New York (Graduate School)

Surface Chemistry - Lectures on Surface Chemistry in Biology

Tata Institute, Bombay, India

Course in Bioelectrochemistry

University of Beersheba (Department of Chemistry), Israel

Course in Biophysics

Faculty Committees

Admissions, Faculty Council (and Executive Committee of the Faculty Council), By-Laws (Formulation of Stated Rules), First Year Faculty, Divisional Elections Commission, ad hoc tenure and department review committees.

Department of Physiology: Director of Seminar Program 1973-1984, Graduate Committee, Undergraduate Committee

Society Memberships

American Association for the Advancement of Science

Bioelectromagnetics Society

Bioelectrochemical Society

American Chemical Society (Colloid and Surface Chemistry Division)

Biophysical Society

Electrochemical Society (Organic and Biological Division)

Professional Activities**Editorial Boards**

Bioelectrochemistry and Bioenergetics - Editorial Board, 1978 -1998;
 Co-Editor, 1981 - 1987; North American Editor, 1993 - 1998
 Journal of Electrochemical Society - Divisional Editor, 1978 -1991
 Journal of Colloid and Interface Science - Advisory Board, 1978 -1981
 Colloids and Surfaces (founded 1979) - Editorial Board, 1979 -1986

Bioelectrochemical Society

Founding Member, March 1979; Vice President, 1979 - 1988; President, 1988 - 1992.
 Co-organizer, 4th International Symposium, Woods Hole, MA, 1977.
 Plenary Lecturer, Weimar, DDR, 1979.
 Organizing Committee, Topical Lecturer, Jerusalem, 1981.
 Scientific Committee, Stuttgart, Germany, 1983.
 Liaison to Bioelectromagnetics Society Board, 1984-1996.
 Scientific Committee, Invited Lecturer, Bologna, Italy, 1985.
 Organizing Committee, Invited Lecturer, Szeged, Hungary, 1987.
 Honorary Committee, Invited Lecturer, Pont-a-Mousson, France, 1989.
 Honorary Committee, Invited Lecturer, Bielefeld, Germany, 1992.
 Honorary Committee, Invited Lecturer, Seville, Spain, 1994.
 Honorary Committee, Symposium Organizer, Invited Lecturer, Israel, 1996.
 Organizer, Symposium on Biological Effects of Environmental EM Fields, Israel, 1996.
 International Scientific Committee, Invited Lecturer, Denmark, 1998
 Invited Lecturer, Bratislava, Slovakia, 2001
 International Scientific Committee, Invited Lecturer, Florence, Italy, 2003

Bioelectromagnetics Society

Invited Lecturer, BEMS meetings, San Francisco, CA, 1985; Madison, WI, 1986;
 Stamford, CT, 1988; Quebec, Canada, 2002
 Invited Speaker, BEMS Workshop on Cooperative Phenomena, Bethesda MD, 1988
 Invited Speaker, BEMS Gene Workshop, Los Angeles, CA, 1993
 Board of Directors, 1989-1992; liaison from BES 1985-1996.
 President Elect, 1996; President, 1997-1998; Past President, 1998-1999
 (Nominating Comm, Journal Comm, Public Affairs Comm)
 Plenary Lecturer, Quebec, Canada, 2002

World Congress on Electricity and Magnetism in Biology and Medicine

1992-3 Executive Committee, Site Selection Committee, Program Committee.
 1992-3 Editor-in-Chief of Proceedings Volume, First World Congress
 1994-7 Vice President, Executive Committee for Second World Congress
 Chairman, Technical Program Committee, Second World Congress

International School of Biophysics, Erice, Italy; Co-Director and Lecturer in following:

Bioelectrochemistry I: Biological Redox Reactions and Energetics, 1981.
 Bioelectrochemistry II: Membrane Phenomena, 1984.
 Bioelectrochemistry III: Charge Separation Across Biomembranes, 1988.
 Bioelectrochemistry IV: Nerve-Muscle Function, 1991.

Division of Colloid and Surface Chemistry, American Chemical Society

Symposium Chairman, "Surface Chemistry of Biological Systems", 1966

Symposium Chairman, "Surface Chemistry of Biological Systems", 1969

VK LaMer Award Committee, 1971-1976, Chairman 1975-1976

Symposium Chairman, "Bioelectrochemistry", Miami, 1978; Cleveland, 1981; Washington, 1983; Denver, 1987

Program Committee, Biology and Medicine, Chairman, 1979-1983

Invited Lecturer, Colloid and Surface Science Symposium, Ann Arbor, 1987

Invited Lecturer, Biological Interfacial Reactions Symposium, Atlanta, 1991

Division of Organic and Biological Electrochemistry (Electrochemical Soc)

Symposium Chairman, "Electrochemical Processes at Biological Membranes", Seattle, 1978

Officer: Secy-Treas 1979-1981; V Chair 1981-1983; Chair 1983-1985.

Board of Directors, Electrochemical Society, 1983-1985.

Symposium Chairman, "Electrical Double Layers in Biology", Toronto, 1985.

Invited Speaker, "Ion Transfer Across Interfaces", Boston, 1986.

Member, Interdivisional Committee on Chemical Sensors, 1984-1987.

Invited Speaker, "Redox and Interfacial Properties", Washington, 1991.

Gordon Research Conferences

Invited speaker 1963, "Chemistry at Interfaces"

Invited speaker 1978, "Sensory Transduction in Microorganisms"

Day Chairman and speaker 1974, "Chemistry at Interfaces"

Organizing Chairman 1980, First Conference "Bioelectrochemistry"

Day Chairman and speaker 1982, "Bioelectrochemistry"

Speaker 1984, "Bioelectrochemistry"

Speaker 1985, "Protons and Membrane Reactions"

Speaker 1985, "Physicochemical Aspects, Transport in Microvasculature"

Speaker 1986, "Bioelectrochemistry"

Speaker 1988, "Bioelectrochemistry"

Invited Discussion Leader, 1990, "Bioelectrochemistry"

Invited Discussion Leader, 1992, "Bioelectrochemistry"

Invited Discussion Leader, 1994, "Bioelectrochemistry" (first in Europe)

Invited Discussion Leader, 1998, "Bioelectrochemistry"

Invited Discussion Leader, 2000, "Bioelectrochemistry" (Oxford)

Invited Discussion Leader, 2002, "Bioelectrochemistry"

Invitations to Miscellaneous Meetings, Workshops, Panels (Departmental Seminars not listed)

Chairman and Lecturer, "Physical Chemistry of Interfacial Transport: Biological Interfaces - Flows and Exchanges" NY Heart Assoc, 1968

Chairman and Lecturer, "Transport and Rheology of Interfacial Layers", Internat Conf on Surface and Colloid Science, Jerusalem, Israel, 1981

Lecturer, "Structure and Function in Excitable Cells", Biophysical Congress Satellite Conf, Woods Hole, MA 1981

Lecturer, "Biophysics of Cell Surface", Arendsee, DDR, 1981

Guest Speaker, CIBA Foundation, Biological Effects of Electromagnetic Fields, London, 1984

Lecturer, "Electrochemical Growth Stimulation", International Society of Electrochemistry,

Berkeley, CA, 1984

Lecturer, "Biophysics of Cell Surface", Heringsdorf, DDR, 1985
 Lecturer, Bioelectrical Repair & Growth Soc, Utrecht, Netherlands, 1986
 Lecturer, IEEE/Engineering in Biology and Medicine Soc, Fort Worth, TX, 1986
 Lecturer, International Biophysics Congress, Jerusalem, Israel, 1987
 Session Organizer, IEEE/Engineering in Biology and Medicine Soc, Boston, MA, 1987
 Lecturer, Bioelectrical Repair & Growth Soc, Washington, DC, 1988
 Lecturer, "Chemistry Physics of Electrified Interfaces", Bologna, Italy, 1988
 Symposium Organizer, "Bioelectrochemistry", AIChE, Washington, DC, 1988
 Speaker, BEMS Workshop on Cooperative Phenomena, Bethesda MD, 1988
 Speaker, National Research Council, "Health Effects of EM Fields", Washington, DC, 1989
 Lecturer, "Electrobiology Today", Bologna, Italy, 1989
 Speaker, California Department of Health Service Workshop on "ELF Field Exposure and Possible Health Effects", Berkeley, CA 1991
 Speaker, FASEB Symposium on "Cancer, EM Fields and Biological Systems", Atlanta, GA 1991
 Panelist, EPA- NYC Dept of Health Panel on Health Effects of EM Fields, New York, NY, 1991
 Panelist, BEMS Workshop, Research Agenda, Health Effects of EM Fields, Milwaukee, WI, 1991
 Opening Speaker, First Congress of European Bioelectromagnetics Association, Brussels, 1992
 Speaker, EPRI Workshop on Neurobiology, Asilomar, CA, 1992
 Speaker, FASEB Symposium, Biological Effects of Electromagnetic Fields, Anaheim, CA, 1992
 Panelist, Molecular Electronics Symposium, First World Congress on Electricity and Magnetism in Biology & Medicine, Orlando, FL, 1992
 Lectures (4) on Bioelectrochemistry of Proteins and Membranes, Tata Inst, Bombay, India, 1992
 Plenary Lecture, Bioelectrochemical Society of India, Bombay, 1992
 Speaker, Biophysical Society Public Policy Symposium on Biological Effects of Electromagnetic Fields, Washington, DC, 1993
 Organizer, ACS Symp, Biological Effects of Environmental EM Fields, Denver, CO, 1993
 Speaker, Helen Hayes Hospital, Haverstraw, NY, 1993
 Speaker, Bell Labs (Series on EMF), Murray Hill, NJ 1993
 Speaker, International Society of Molecular Electronics & Biocomputers, Gaithersburg, MD, 1993
 Speaker, International Society of Toxicology, New Orleans, 1993
 Speaker, ACS Conference on Chemical Health and Safety, Garden City, 1993
 Panelist, Deadline Club, "Tension over High Tension", New York, 1993
 Organizer and Speaker, Biophysical Society Workshop on Biological Effects of Environmental Electromagnetic Fields, New Orleans, LA, 1994
 Speaker, ACS Conference on Environment, Hofstra University, NY, 1994
 Lecturer, Hackensack Meadowlands Environment Center, Lyndhurst, NJ, 1994
 Plenary Lecture, International Society of Electrochemistry, Portugal, 1994
 Seminar Lecturer, Weizmann Institute, Rehovoth, Israel, 1995
 Seminar Lecturer, Hebrew University-Hadassah Medical School, Jerusalem, Israel, 1995
 Seminar Lecturer, Wayne State University Medical School, Detroit, MI, 1995
 Lecturer, Centre for Environmental Health, Victoria, BC, 1995
 Lecturer, Victoria Cancer Clinic, Royal Jubilee Hospital, Victoria, BC, 1995
 Speaker, First World Congress in Magnetotherapy, London, UK, 1996
 Speaker, Applied Physics Division, CSIRO, Sydney, Australia, 1996
 Speaker, Complementary Healing Conference, Baltimore, MD, 1996
 Speaker, Vermont Law School Conference "Unplugged", Killington, VT, 1996

Speaker, 9th International Congress on Stress, Montreux, Switzerland, 1997
Speaker, Internat'l Comm Non-Ionizing Radiation Protection/ World Health Org (ICNIRP/WHO) Seminar, Bologna, Italy, 1997
Plenary Lecturer, Second World Congress on "Electricity and Magnetism in Biology and Medicine", Bologna, Italy, 1997
Speaker, Fourth Congress of European Bioelectromagnetics Ass'n, Zagreb, Croatia, 1998
Speaker, 10th International Congress on Stress, Montreux, Switzerland, 1999
Speaker, Electromed99, Norfolk, VA, 1999
Speaker, Tutorial on Magnetic Fields, Procter & Gamble, Cincinnati, 1999
Speaker, Potential Therapeutic Applications of Magnetic Fields, Vanderbilt Univ, 1999
Speaker, North American Academy of Magnetic Therapy, Los Angeles, 2000
Speaker, 3rd International Conference on Bioelectromagnetism, Slovenia, 2000
Speaker, Electromed2001, Portsmouth, VA, 2001
Plenary Lecturer, Bioelectromagnetics Society, Quebec, Canada, 2002
Speaker, XXVII URSI General Assembly, Maastricht, Netherlands, 2002
Speaker, EMF - Scientific and Legal Issues , Catania, Italy, 2002

Grant Review Consultant

Office of Naval Research, Department of Defense
IPA Biologist, Manager of Membrane Electrochemistry ARI, 1986-1988
Chairman, Panel on Biological Sciences Div, August 1986
Member, Panel on Interdisciplinary Research, April 1979
Electric Power Research Institute, Palo Alto, CA
Member, Basic Sciences Advisory Committee, 1987-1991
National Institutes of Health
Radiation Study Section, 1991
(several ad hoc Study Sections and site visit committees)
National Science Foundation
US Army Research Office
US-Israel Binational Science Foundation
Petroleum Research Fund
Medical Research Council - Canada
Australian Research Grants Committee
Research Corporation (Providence, Rhode Island)
University and Polytechnic Grants Committee, Hong Kong
International Science Foundation (for Former Soviet Union), Washington, DC
Breast Cancer Research Program, University of California
US Army Medical Research and Materiel Command, Neurotoxin Exposure Program, AIBS
US Army Radiofrequency Radiation Research Program, AIBS

PUBLICATIONS - Books, Reviews, Chapters

1. Blank, M (1957) The Transfer of Monolayers through Surface Channels. **PhD Dissertation**, Chemistry Department, Columbia University, 54pp.
2. Blank, M (1959) The Permeability of Monolayers to Carbon Dioxide and Oxygen. **PhD Dissertation**, Department of Colloid Science, Cambridge University, England, 105pp.
3. Blank, M (1967) Editor, Symposium "Surface Chemistry of Biological Systems". **Journal of Colloid and Interface Science** 24:1-127.
4. Blank, M and Britten, JS (1970) Physical Principles in Monolayer and Membrane Permeation. in **"Physical Principles of Biological Membranes"**, edited by F Snell et al; Gordon & Breach, New York, pp 143-163.
5. Blank, M (1970) Editor, **"Surface Chemistry of Biological Systems"**. Volume 7, "Advances in Experimental Medicine and Biology", Plenum Press, New York, 340pp.
6. Blank, M (1972) The Measurement of Monolayer Permeability, in **"Techniques of Surface Chemistry and Physics"**, Volume I, edited by Good, Stromberg and Patrick; Marcel Dekker Inc., New York, pp 41-88
7. Blank, M (1979) Monolayer Permeability. **Progress in Surface & Membrane Science** 13:87-139.
8. Blank, M (1979) Surface Pharmacology: Drug Binding Equilibria and Ion Transport in Membrane Structures. **Pharmacology and Therapeutics** 7:313-328.
9. Blank, M (1980) Editor, **"Bioelectrochemistry: Ions, Surfaces and Membranes"**, Advances in Chemistry, Volume 188, American Chem Soc, Washington, DC, 527pp.
10. Blank, M (1981) Surface Pharmacology: Drug Binding Equilibria and Ion Transport in Membrane Structures, in **International Encyclopedia of Pharmacology and Therapeutics**, Inhibitors of Mitochondrial Functions, edited by M Erecinska and DF Wilson. Pergamon, New York, pp 19-34.
11. Milazzo, G and Blank, M (1983) Editors, **"Bioelectrochemistry I: Biological Redox Reactions"**, School of Biophysics, Erice, Italy. Plenum, New York, 348pp.
12. Blank, M (1983) Transmembrane Potentials and Redox Reactions from the Physiological Point of View. in **"Bioelectrochemistry I: Biological Redox Reactions"**, edited by G Milazzo and M Blank, Plenum, New York, pp 227-247.
13. Blank, M (1983) The Effects of Surface Compartments of Ion Transport Across Membranes. in **"Structure and Function in Excitable Cells"**, edited by DC Chang, I Tasaki, WJ Adelman and HR Leuchtag; Plenum, New York, pp. 435-449.
14. Blank, M (1986) Editor, **"Electrical Double Layers in Biology"**, Plenum, New York, 319pp
15. Blank, M (1987) The Surface Compartment Model: A Theory of Ion Transport Focused on Ionic Processes in the Electrical Double Layers at Membrane Protein Surfaces. **Biochimica et Biophysica Acta - Reviews on Biomembranes** 906:277-294.
16. Blank, M and Findl, E (1987) Editors, **"Mechanistic Approaches to the Interaction of Electric and Electromagnetic Fields with Living Systems"**, Plenum, New York, 439pp.
17. Milazzo, G and Blank, M (1987) Editors, **"Bioelectrochemistry II: Membrane Phenomena"**, International School of Biophysics, Erice, Italy. Plenum, New York, 543pp.
18. Blank, M (1987) An Electrochemical Perspective on Excitable Membranes, Channels and Gating. in **"Bioelectrochemistry II: Membrane Phenomena"**, edited by G Milazzo and M Blank; Plenum, New York, pp. 431-456.
19. Blank, M (1988) Recent Developments in the Theory of Ion Flow Across Membranes Under Imposed Electric Fields. In **"Modern Bioelectricity"**, edited by AA Marino; Dekker, New York, pp 345-364.

20. Markov, M and Blank, M (1988) Editors, "**Electromagnetic Fields and Biomembranes**", Plenum, New York, 309pp.
21. Blank, M (1990) Editor, **Syllabus for Human Physiology Course**, 13th Edition, Physiology Department, Columbia University, New York, 704pp.
22. Milazzo, G and Blank, M (1990) Editors, "**Bioelectrochemistry III: Charge Separation across Membranes**", Plenum, New York, 337pp.
23. Blank, M (1991) Membrane Transport: Insight from Colloid Science. in "**Interfacial Phenomena in Biological Systems**" edited by M Bender. Dekker, New York, pp 337-366.
24. Blank, M (1993) Electrochemistry of Nerve Excitation, "**Modern Aspects of Electrochemistry**" Number 24, edited by RE White et al, Plenum, New York, pp1-37.
25. Blank, M (1993) Editor-in-Chief, Proceedings of First World Congress on "**Electricity and Magnetism in Biology and Medicine**", San Francisco Press, 952pp.
26. Blank, M and Vodyanoy, I (1994) Editors, "**Biomembrane Electrochemistry**", Advances in Chemistry Series of the American Chemical Society Press, 605pp.
27. Blank, M (1994) An Electrochemical Model of Voltage Gated Channels. **Advances in Chemistry** 235:429-446.
28. Melandri, BA, Milazzo, G and Blank, M (1994) Editors, "**Bioelectrochemistry IV: Nerve-Muscle Function**". Life Sciences Volume 267, Plenum, New York, 376pp.
29. Blank, M (1995) Editor, "**Electromagnetic Fields: Biological Interactions and Mechanisms**", **Advances in Chemistry**, Volume 250, American Chemical Society Press, 512pp.
30. Blank, M (1995) Biological Effects of Electromagnetic Fields: An Overview. **Advances in Chemistry** 250:3-12.
31. Blank, M (1995) Electric Stimulation of Protein Synthesis in Muscle. **Advances in Chemistry** 250:143-153.
32. Blank, M (1995) Electric and Magnetic Field Signal Transduction in the Membrane Na,K-ATPase. **Advances in Chemistry** 250:339-348.
33. Goodman, R and Blank, M (1995) The Biosynthetic Stress Response in Cells Exposed to Electromagnetic Fields. **Advances in Chemistry** 250:423-436.
34. Blank, M (1997) Effects of Electromagnetic Fields on Cells as a Basis for Therapy. in **Proceedings of the First World Congress in Magnetotherapy**, pp. 151-156, London, May 1996.
35. Blank, M (1997) Studies on the Mechanism of Electromagnetic Field Interactions with Cells: I-The Cellular Stress Response in Electromagnetic Fields; II-Electric and Magnetic Signal Transduction in a Membrane Protein. **Electric Power Research Institute Report TR-108947**, 99 pp.
36. Goodman, R and Blank, M (1998) Magnetic Field Induces Expression of hsp70. **Cell Stress and Chaperones** 3:79-88.
37. Goodman, R and Blank, M (2002) Insights into Electromagnetic Interaction Mechanisms. **Journal of Cellular Physiology** 192:16-22.

PUBLICATIONS - Papers

1. LaMer, VK and Blank, M (1956) The Transfer of Surface Films through Surface Channels-Geometrical Factors. **Journal of Colloid Science** 11:608-616. 1956.
2. Blank, M and LaMer, VK (1957) The Mechanism of Transfer of Surface Films. Proceedings of the **Second International Congress on Surface Activity**, Vol II, pp 102-108.
3. Blank, M and LaMer, VK (1957) The Transfer of Monolayers through Surface Channels - II. Mechanism. **Journal of Physical Chemistry** 61:1611-1614.
4. Blank, M and Roughton, FJW (1960) The Permeability of Monolayers to Carbon Dioxide. **Transactions of the Faraday Society** 56:1832-1841.
5. Blank, M (1961) The Effect of Vapors on Monolayer Permeability to Carbon Dioxide. **Journal of Physical Chemistry** 65:1698-1703.
6. Blank, M and LaMer, VK (1962) The Energy Barrier for Monolayer Penetration, in "**Retardation of Evaporation by Monolayers**", edited by VK LaMer. Academic Press, New York, pp. 59-66.
7. Blank, M (1962) The Permeability of Monolayers to Several Gases, in "**Retardation of Evaporation by Monolayers**", edited by VK LaMer. Academic Press, New York, pp. 75-95.
8. Blank, M and Rosano, HL (1962) Surface Chemistry in a Biophysics Curriculum. **Journal of Chemical Education** 39:184-186.
9. Blank, M (1962) Monolayer Permeability and the Properties of Natural Membranes. **Journal of Physical Chemistry** 66:1911-1918.
10. Blank, M and Feig, S (1963) Electric Fields across Water-Nitrobenzene Interfaces. **Science** 141:1173-1174.
11. Blank, M and Ottewill, RH (1964) Adsorption of Aromatic Vapors on Water Surfaces. **Journal of Physical Chemistry** 68:2206-2211.
12. Blank, M (1964) An Approach to a Theory of Monolayer Permeation by Gases. **Journal of Physical Chemistry** 68:2793-2800.
13. Blank, M and Britten, JS (1965) Transport Properties of Condensed Monolayers. **Journal of Colloid Science** 20:789-800.
14. Blank, M (1965) A Physical Interpretation of the Ionic Fluxes in Excitable Membranes. **Journal of Colloid Science** 20:933-949.
15. Blank, M (1965) Some Effects due to the Flow of Current Across a Water Nitrobenzene Interface. **Journal of Colloid and Interface Science** 22:51-57.
16. Blank, M (1966) Physical Models in Research on Biological Membranes. **Annals of the New York Academy of Sciences** 137:755-758.
17. Blank, M and Essandoh, SO (1967) The Surface Potential of a Di-Palmitoyl Lecithin Monolayer when Acetylcholine is in the Subphase. **Nature (London)** 215:286-287.
18. Blank, M (1967) The Accumulation of Ions at Water Nitrobenzene Interfaces during Transference. in "**Physics and Physical Chemistry of Surface Active Substances**", edited by Overbeek; Gordon and Breach, University Press Belfast, Vol II, pp 233-243.
19. Blank, M (1967) The Process of Monolayer Permeation by Gases. in "**Physics and Physical Chemistry of Surface Active Substances**", edited by Overbeek; Gordon and Breach, University Press, Belfast, Vol II, pp 969-979.
20. Blank, M and Miller, IR (1968) Transport of Ions Across Lipid Monolayers: Structure of Decylammonium Monolayers at the Polarized Mercury Water Interface. **Journal of Colloid and Interface Science** 26:26-33.
21. Miller, IR and Blank, M (1968) Transport of Ions Across Lipid Monolayers: Reduction of

- Polarographic Currents of Cu^{++} by Decylammonium Monolayers. **Journal of Colloid and Interface Science** 26:34-40.
22. Britten, JS and Blank, M (1968) Thallium Activation of the $(\text{Na}^{+}\text{-K}^{+})$ -activated Adenosine Triphosphatase of Rabbit Kidney. **Biochimica Biophysica Acta** 159:160-166.
 23. Blank, M and Mussellwhite, PR (1968) The Permeabilities of Adsorbed Monolayers to Water. **Journal of Colloid and Interface Science** 27:188-192.
 24. Blank, M (1968) Introductory Remarks to New York Heart Association Symposium "Physical Chemistry of Interfacial Transport", **Journal of General Physiology** 52:187S-190S.
 25. Blank, M (1968) Monolayer and Interfacial Permeation. **Journal of General Physiology** 52:191S-208S.
 26. Blank, M, Goldstein, AB and Lee, BB (1968) Surface Properties of Lung Extract. **Journal of Colloid and Interface Science** 29:148-154.
 27. Blank, M (1969) Intermolecular Interactions in Newly Spread Serum Albumin Monolayers. **Journal of Colloid and Interface Science** 29:205-209.
 28. Britten, JS and Blank, M (1969) The Action of Phloridzin and Sugars on the $(\text{Na}^{+}\text{-K}^{+})$ -Activated ATPase. **Journal of Membrane Biology** 1:238-247.
 29. Blank, M (1970) Transport Processes Across Liquid Interfaces and Monolayers. in **Permeability and Functions of Biological Membranes**, edited by L Bolis et al.; North Holland, Amsterdam, pp 177-184.
 30. Blank, M and Britten, JS (1970) Determination of Yield Stress in Films of Lung Extract. **Journal of Colloid and Interface Science** 32:62-66.
 31. Blank, M and Britten, JS (1970) Electron Flow at the Polarized Mercury-Water Interface in the Presence of Membrane Fragments Rich in $\text{Na}^{+}\text{-K}^{+}$ -activated ATPase. **Journal of Membrane Biology** 2:1-16.
 32. Blank, M, Lucassen, J and van den Tempel, M (1970) The Elasticities of Spread Bovine Serum Albumin and Ovalbumin. **Journal of Colloid and Interface Science** 33:94-100.
 33. Blank, M and Lee, BB (1971) Problems in the Study of Spread Films of Lung Extract. **Journal of Colloid and Interface Science** 36:151-152.
 34. Werman, R, Brookes, N and Blank, M (1971) The Stoichiometry of Transmitter-Receptor Interactions. **Experientia** 27:1120.
 35. Blank, M (1972) The Role of Surface Forces in Drug-Receptor Interactions. **Journal of Colloid and Interface Science** 38:470-476.
 36. Blank, M (1972) Cooperative Effects in Membrane Reactions. **Journal of Colloid and Interface Science** 41:97-104.
 37. Miller, IR, Britten, JS and Blank, M (1972) Polarographic Assay of p-Nitrophenyl Phosphatase Activity. **Analytical Biochemistry** 50:84-88.
 38. Sweeney, GD and Blank, M (1973) Some Electrical Properties of Thin Lipid Films Formed from Cholesterol and Cetyl-trimethylammonium Bromide. **Journal of Colloid and Interface Science** 42:410-417.
 39. Bach, D, Britten, JS and Blank, M (1973) Polarographic Studies of Membrane Particles Containing Na-K ATPase, **Journal of Membrane Biology** 11:227-236.
 40. Blank, M and Britten, JS (1973) Comments on the Molecular Basis of Fluidity in Membranes. **Chemistry and Physics of Lipids** 10:286-288.
 41. Blank, M, Lee, BB and Britten, JS (1973) The Effects of Cations on the Yield Stress of Ovalbumin Monolayers. **Journal of Colloid and Interface Science** 43:539-544.

42. Blank, M (1973) The Oxygenation of Hemoglobin as a Problem in Surface Chemistry. **Journal of Colloid and Interface Science** 43:557-563.
43. Britten, JS and Blank, M (1973) Effects of Cations on Biologically Active Surfaces - Specific Binding Sites in the Na-K ATPase. **Journal of Colloid and Interface Science** 43:564-570.
44. Brookes, N, Blank, M and Werman, R (1973) The Kinetics of the Conductance Increase Produced by GABA at the Membrane of Locust Muscle Fibers. **Molecular Pharmacology** 9:580-589.
45. Blank, M (1974) discussion in "Physical Chemistry of Oscillatory Phenomena". **Faraday Symposium** 9:218.
46. Blank, M, Soo, L, and Britten, JS (1974) Electrode Noise as a Source of Information on the Contact of Sperm Cells with Charged Surfaces. **Bioelectrochemistry and Bioenergetics** 1:293-300.
47. Blank, M, Soo, L, and Britten, JS (1974) The Properties of Rabbit Sperm Membranes in Contact with Electrode Surfaces, **Journal of Membrane Biology** 18:351-364.
48. Blank, M, Lee, BB and Britten, JS (1975) Adsorption Kinetics of Ovalbumin Monolayers. **Journal of Colloid and Interface Science** 50:215-222.
49. Blank, M (1975) A Model for Calculating the Bohr Effect in Hemoglobin Equilibria. **Journal of Theoretical Biology** 51:127-134.
50. Blank, M and Britten, JS (1975) Membrane Proteins and Membrane Models. **Biorheology** 12:271-274.
51. Blank, M and Britten, JS (1975) Effects of Cations on Biologically Active Surfaces - The Divalent Cation Selectivity of the Membrane Na-K Adenosine Triphosphatase. **Advances in Chemistry** 144:231-238.
52. Blank, M (1975) Medicine for Physiologists. **The Physiologist** 18:525-528.
53. Miller, IR, Britten, JS and Blank, M (1975) Binding of Ni^{++} to ATP: Polarographic Determination of Equilibrium and Rate Constants. **Bioelectrochemistry and Bioenergetics** 2:321-328.
54. Blank, M (1975) Some Observations on Colloid Science and Molecular Biology. **Advances in Colloid and Interface Science** 5:277-279.
55. Blank, M (1976) The Molecular Basis of Membrane Elasticity and Strength. in "**Membranes and Diseases**", edited by L Bolis et al, North Holland Publ Co, Amsterdam, pp 81-88.
56. Blank, M, Eisenberg, W and Britten, JS (1976) Ion Exchange Kinetics in Adsorbed Protein Film. **Bioelectrochemistry and Bioenergetics** 3:15-27.
57. Blank, M (1976) Hemoglobin Reactions as Interfacial Phenomena. **Journal of the Electrochemical Society** 123:1653-1656.
58. Blank, M and Soo, L (1976) The Effect of Cholesterol on the Viscosity of Protein-Lipid Monolayers. **Chemistry and Physics of Lipids** 17:416-422.
59. Blank, M (1976) Bioelectrochemistry and Biorheology - New Developments in Physiology. **The Physiologist** 19:477-483.
60. Blank, M and Soo, L (1976) The Adsorption of Serum Albumin on Rabbit Sperm Membranes. **Journal of Membrane Biology** 29:401-409.
61. Blank, M and Lee, BB (1976) Elasticities of Albumin Monolayers. in **Colloid and Surface Science**, Vol. V. Biocolloids, Polymers, Monolayers, Membranes and General Papers. Academic Press, New York, pp 239-249.
62. Britten, JS and Blank, M (1977) The Effect of Surface Charge on Interfacial Ion Transport. **Bioelectrochemistry and Bioenergetics** 4:209-216.
63. Blank, M and Britten, JS (1978) The Surface Compartment Model of the Steady State Excitable Membrane. **Bioelectrochemistry and Bioenergetics** 5:528-540.

64. Blank, M, King, RG, Soo, L, Abbott, RE and Chien, S (1979) The Viscoelastic Properties of Monolayers of Red Cell Membrane Proteins. **Journal of Colloid and Interface Science** 69:67-73.
65. Blank, M, Soo, L and Abbott, RE (1979) The Ionic Permeability of Adsorbed Membrane Protein Monolayers. **Journal of the Electrochemical Society** 126:1471-1475.
66. Blank, M, Soo, L and Abbott, RE (1979) Erythrocyte Membrane Proteins: A Modified Gorter-Grendel Experiment. **Journal of Membrane Biology** 47:185-193.
67. Blank, M, Soo, L, Abbott, RE and Cogan, U (1980) Surface Potentials of Films of Membrane Proteins. **Journal of Colloid and Interface Science** 73:279-281.
68. Blank, M (1980) Hemoglobin Oxygenation as a Problem in Surface Electrochemistry. **Advances in Chemistry** 188:187-192.
69. Blank, M, Soo, L and Abbott, RE (1980) The Permeability of Adsorbed and Spread Membrane Protein (Spectrin-Actin) Films to Ions. **Advances in Chemistry** 188:299-311.
70. Blank, M (1980) A Surface Free Energy Model for Protein Structure in Solution: Hemoglobin Equilibria. **Colloids and Surfaces** 1:139-149.
71. Blank, M (1980) The Thickness Dependence of Properties of Membrane Protein Multilayers. **Journal of Colloid and Interface Science** 75:435-440.
72. Blank, M (1980) A Surface Free Energy Model for Protein Structure in Solution: Hemoglobin Equilibria. **Biophysical Journal** 32:82-83.
73. Blank, M, Soo, L and Cogan, U (1981) Surface Isotherms of Intrinsic Red Cell Membrane Proteins. **Journal of Colloid and Interface Science** 83:449-454.
74. Blank, M, King, RG, Soo, L, Cogan, U and Chien, S (1981) Surface Rheology of Multimolecular Films of Intrinsic Red Cell Membrane Proteins. **Journal of Colloid and Interface Science** 83:455-459.
75. Blank, M, Soo, LM, Wassermann, NH and Erlanger, BF (1981) Photoregulated Ion Binding. **Science** 214:70-72.
76. Blank, M (1981) Bioelectrochemistry VI. Report of the 6th International Symposium. **Bioelectrochemistry and Bioenergetics** 8:591-595.
77. Evans, E and Blank, M (1982) Albumin and Mucin at the Polarized Mercury/Water Interface. **Journal of Colloid and Interface Science** 86:90-95.
78. Blank, M (1982) Red Cell Membrane Proteins in Monolayer and Multilayers. **Biophysical Journal** 37:79-80.
79. Blank, M (1982) Bioelectrochemistry, Part I. Biological Redox Reactions and their Energetics. First International Course. A Report. **Bioelectrochemistry and Bioenergetics** 9:127-131.
80. Blank, M and Kavanaugh, WP (1982) The Surface Compartment Model (SCM) During Transients. **Bioelectrochemistry and Bioenergetics** 9:427-438.
81. Blank, M, Kavanaugh, WP and Cerf, G (1982) The Surface Compartment Model - Voltage Clamp. **Bioelectrochemistry and Bioenergetics** 9:439-458.
82. Blank, M (1982) The Surface Compartment Model (SCM) - Role of Surface Charge in Membrane Permeability Changes. **Bioelectrochemistry and Bioenergetics** 9:615-624.
83. Blank, M, Kavanaugh, WP and Cerf, G (1982) Surface Processes in the Control of Ion Transport across Membranes. **Studia Biophysica** 90:31-32.
84. Blank, M (1983) The Surface Compartment Model (SCM) with a Voltage Sensitive Channel. **Bioelectrochemistry and Bioenergetics** 10:451-465.
85. Blank, M (1983) Membrane Proteins in Monolayers, Multilayers and Membranes. **Annals of the New York Academy of Science** 416:128-139.

86. Blank, M (1983) Seventh International Symposium of Bioelectrochemistry Report. **Bioelectrochemistry and Bioenergetics** 11:189-192.
87. Small, RK, Blank, M, Ghez, R and Pfenninger, KH (1984) Components of the Plasma Membrane of Growing Axons: II Diffusion of Membrane Protein Complexes. **Journal of Cell Biology** 98:1434-1443.
88. Blank, M (1984) Electrical Double Layers in Ion Transport and Excitation. **Studia Biophysica** 99:17-20.
89. Wagenknecht, JH and Blank, M (1984) Organic and Biological Electrochemistry. in **Electrochemistry and Solid State Science in the Electrochemical Society**, edited by EG Bylander and RL Yeakley, Electrochemical Soc, Pennington, NJ, pp 27-28.
90. Blank, M (1984) Molecular Association and the Viscosity of Hemoglobin Solutions. **Journal of Theoretical Biology** 108:55-64.
91. Blank, M (1984) Properties of Ion Channels Inferred from the Surface Compartment Model (SCM). **Bioelectrochemistry and Bioenergetics** 13:93-101.
92. Blank, M (1984) Report of the Second Bioelectrochemistry Course, International School on Biophysics. **Bioelectrochemistry and Bioenergetics** 13:247-253.
93. Blank, M (1984) The Capacitance of Natural Membranes in terms of the Surface Compartment Model (SCM). **Bioelectrochemistry and Bioenergetics** 13:317-327.
94. Blank, M (1985) Surface Processes in Ion Transport and Excitation, in **Molecular Basis of Nerve Activity**, edited by JP Changeux, F Hucho, A Maclicke and E Neumann. de Gruyter, Berlin, pp 457-464.
95. Blank, M, Soo, L and Osman, M (1985) Lung Surfactant in Elastase Induced Emphysema. **Colloids and Surfaces** 16:31-39.
96. Blank, M (1985) The Surface Compartment Model (SCM) with Fast and Slow Gating Channels. **Studia Biophysica** 110:65-70.
97. Blank, M and Blank, JN (1986) Concentration Changes at Ion Channels due to Oscillating Electric Fields. **Journal of the Electrochemical Society** 133:237-238.
98. Blank, M (1986) Electrical Double Layers in Ion Transport and Excitation. in **Electrical Double Layers in Biology**, edited by M Blank, Plenum, New York, pp. 119-128.
99. Blank, M, Wachtel, H and Barrett, T (1986) Bioelectrochemistry, Bioenergetics and Bioelectromagnetics: A Conference Report on the 8th International Symposium on Bioelectrochemistry and Bioenergetics. **Bioelectrochemistry and Bioenergetics** 15:187-191.
100. Blank, M (1986) Modeling Electrical Double Layer Processes at Membrane Surfaces. in **Proceedings of Eighth Annual Conference IEEE Engineering in Medicine & Biology Society**. Vol 3, pp 1376-1378.
101. Blank, M (1986) Electrical Double Layers and Voltage-Gated Ion Fluxes. **Bioelectrochemistry and Bioenergetics** 16:559-560.
102. Blank, M (1987) Ion Channels as Short Circuits Between Electrical Double Layers. **Journal of the Electrochemical Society** 134:343-346.
103. Blank, M (1987) Theory of Frequency Dependent Ion Concentration Changes in Oscillating Electric Fields. **Journal of the Electrochemical Society** 134:1112-1117.
104. Blank, M and Soo, L (1987) Surface Free Energy as the Potential in Oligomeric Equilibria: Prediction of Hemoglobin Disaggregation Constant. **Bioelectrochemistry and Bioenergetics** 17:349-360.
105. Blank, M (1987) Ionic Processes at Membrane Surfaces: Role of Electrical Double Layers in

- Electrically Stimulated Ion Transport. in: **Mechanistic Approaches to the Interaction of Electric and Electromagnetic Fields with Living Systems**. Edited by M Blank & E Findl, Plenum, New York, pp 1-13.
106. Blank, M (1987) Influence of Surface Charge on Oligomeric Reactions as a Basis for Channel Dynamics. in **Mechanistic Approaches to the Interaction of Electric and Electromagnetic Fields with Living Systems**. Edited by M Blank and E Findl, Plenum, New York, pp 151-160.
 107. Blank, M (1987) A General Model for Effects of Electric Fields on Channel Processes. in **Proceedings 9th Conference IEEE Engineering in Medicine & Biology Soc.** Vol 1, pp 67-68.
 108. Blank, M (1988) Electric Double Layers in Membrane Transport and Nerve Excitation. In **Electromagnetic Fields and Biomembranes**. Editors M Markov and M Blank; Plenum, London, pp19-25
 109. Blank, M (1988) Surface Charge Determines the Aggregation of Hemoglobin Subunits as Predicted by the Surface Free Energy. in **Redox Chemistry and Interfacial Behavior of Biological Molecules**, edited by G Dryhurst and K Niki, Plenum, New York, pp 557-564.
 110. Blank, M (1988) Biological Switches. **Chemtech** 18:434-438.
 111. Blank, M and Goodman, R (1988) An Electrochemical Model for the Stimulation of Biosynthesis by External Electric Fields. **Bioelectrochemistry and Bioenergetics** 19:569-580.
 112. Blank, M and Goodman, R (1989) New and Missing Proteins Induced by Electromagnetic and Thermal Stimulation of Biosynthesis. **Bioelectrochemistry and Bioenergetics** 21:307-317.
 113. Blank, M (1989) Surface Forces in Aggregation of Membrane Proteins. **Colloids and Surfaces** 42:355-364.
 114. Blank, M and Soo, L (1989) The Effects of Alternating Currents on Na,K-ATPase Function. **Bioelectrochemistry and Bioenergetics** 22:313-322.
 115. Blank, M (1989) Electrochemical Processes in Membrane Channels and Biosynthetic Structures. in **Molecular Electronics: Biosensors and Biocomputers**, edited by FT Hong, Plenum, New York, pp 77-81.
 116. Blank, M and Soo, L (1990) Ion Activation of the Na,K-ATPase. **Bioelectrochemistry and Bioenergetics** 24:51-61.
 117. Blank, M and Goodman, R (1990) Charge Effects in Electromagnetic Stimulation of Biosynthesis. in **Bioelectrochemistry III: Charge Separation across Membranes**, edited by G Milazzo and M Blank, Plenum, New York, pp 311-324.
 118. Blank, M (1991) Extracellular and Cell Surface Effects of Electromagnetic Fields. In **Electromagnetics in Biology and Medicine**, editors CT Brighton and SR Pollack, San Francisco Press, pp15-20.
 119. Blank, M and Soo, L (1991) Ion Activation of Na,K-ATPase in Alternating Currents. In **Electromagnetics in Biology and Medicine**, editors CT Brighton and SR Pollack, San Francisco Press, pp 91-94.
 120. Blank, M (1992) Na,K-ATPase Function in Alternating Electric Fields. **FASEB Journal** 6:2434-2438.
 121. Blank, M (1992) Report on Bioelectrochemistry IV. **Bioelectrochemistry and Bioenergetics** 27:519-521.
 122. Blank, M and Soo, L (1992) The Threshold for Alternating Current Inhibition of the Na,K-ATPase. **Bioelectromagnetics** 13:329-333.
 123. Blank, M and Soo, L (1992) Temperature Dependence of Electric Field Effects on the Na,K-ATPase. **Bioelectrochemistry and Bioenergetics** 28:291-299.

124. Blank, M, Soo, L, Lin, H, Henderson, AS, and Goodman, R (1992) Changes in Transcription in HL-60 Cells Following Exposure to Alternating Currents from Electric Fields. **Bioelectrochemistry and Bioenergetics** 28:301-309.
125. Blank, M and Soo, L (1993) The Na,K-ATPase as a Model for Electromagnetic Field Effects on Cells. **Bioelectrochemistry and Bioenergetics** 30:85-92.
126. Blank, M, Khorkova, O and Goodman, R (1993) Similarities in the Proteins Synthesized by Sciara Salivary Glands in Response to Electromagnetic Fields and Heat Shock. **Bioelectrochemistry and Bioenergetics** 31:27-38.
127. Blank, M and Soo, L (1993) Na,K-ATPase Activity as a Model for EM Field Effects on Cells. in **Electricity and Magnetism in Biology and Medicine**, editor M Blank, San Francisco Press, pp 474-476.
128. Blank, M, Khorkova, O and Goodman, R (1993) Changes in the Distribution of Proteins Following Electromagnetic Stimulation of Sciara Salivary Glands. in **Electricity and Magnetism in Biology and Medicine**, editor M Blank, San Francisco Press, pp 528-530.
129. Blank, M, Soo, L, Lin, H, Henderson, AS and Goodman, R (1993) Stimulation of Transcription in HL-60 Cells by Alternating Currents from Electric Fields. in **Electricity and Magnetism in Biology and Medicine**, editor M Blank, San Francisco Press, pp 516-518.
130. Blank, M (1993) Membrane Channel Energetics: Surface Charge in Protein Interactions. in **Electricity and Magnetism in Biology and Medicine**, editor M Blank, San Francisco Press, pp 228-229.
131. Blank, M, Khorkova, O and Goodman, R (1994) Changes in polypeptide distribution stimulated by different levels of EM and thermal stress. **Bioelectrochemistry and Bioenergetics** 33:109-114.
132. Goodman, R, Blank, M, Lin, H, Khorkova, O, Soo, L, Weisbrot, D and Henderson, AS (1994) Increased levels of hsp70 transcripts are induced when cells are exposed to low frequency electromagnetic fields. **Bioelectrochemistry and Bioenergetics** 33:115-120.
134. Blank, M (1994) Protein Aggregation Reactions: Surface Free Energy Model. **Journal of Theoretical Biology**, 169:323-326.
135. Martirosov, S and Blank, M (1995) Inhibition of F_0F_1 -ATPase Activity in AC-Fields. **Bioelectrochemistry and Bioenergetics** 37:153-156.
136. Blank, M (1995) Biological Effects of Environmental Electromagnetic Fields: Molecular Mechanisms. **BioSystems** 35:175-178.
137. Blank, M, Soo, L and Papstein, V (1995) Effects of Low Frequency Magnetic Fields on Na,K-ATPase Activity. **Bioelectrochemistry and Bioenergetics** 38:267-273.
138. Blank, M (1995) An Ion Pump Mechanism Based on Channel Processes in the Na,K-ATPase. **Bioelectrochemistry and Bioenergetics** 38:275-279.
139. Blank, M (1995) Letter to the Editor. EMF Effects. **Science** 270:1104-1105.
140. Blank, M and Goodman, R (1996) The Debate on Electromagnetic Fields: A Rush to Judgement. **Physics Today**, pp. 84-85.
141. Lin, H, Blank, M, Jin, M, Lam, H and Goodman, R (1996) Electromagnetic field stimulation of biosynthesis: changes in c-myc transcript levels during continuous and intermittent exposures. **Bioelectrochemistry and Bioenergetics** 39:215-220.
142. Blank, M and Soo, L (1996) The threshold for Na,K-ATPase stimulation by electromagnetic fields. **Bioelectrochemistry and Bioenergetics** 40:63-65.
143. Blank, M and Goodman, R (1997) Do Electromagnetic Fields Interact Directly With DNA? **Bioelectromagnetics** 18:111-115.

144. Blank, M and Soo, L (1997) Frequency dependence of Na,K-ATPase function in magnetic fields. **Bioelectrochemistry and Bioenergetics** 42:231-234.
145. Lin, H, Opler, M, Head, M, Blank, M and Goodman, R (1997) Electromagnetic Field Exposure Induces Rapid, Transitory Heat Shock Factor Activation in Human Cells. **Journal of Cellular Biochemistry** 66:482-488.
146. Jin, M, Lin, H, Han, L, Opler, M, Maurer, S, Blank, M and Goodman, R (1997) Biological and Technical Variables in myc Expression in HL60 Cells Exposed to 60 Hz Electromagnetic Fields. **Bioelectrochemistry and Bioenergetics** 44:111-120.
147. Blank, M and Goodman (1998) Reply to Brief Communication by R.K. Adair. **Bioelectromagnetics** 19:138.
148. Lin, H, Head, M, Blank, M, Han, L, Jin, M and Goodman, R (1998) Myc-Mediated Transactivation of HSP70 Expression Following Exposure to Magnetic Fields. **Journal of Cellular Biochemistry** 69:181-188.
149. Blank, M and Soo, L (1998) Enhancement of Cytochrome Oxidase Activity in 60Hz Magnetic Fields. **Bioelectrochemistry and Bioenergetics** 45:253-259.
150. Lin, H, Han, L, Blank, M, Head, M and Goodman, R (1998) Magnetic Field Activation of Protein-DNA Binding. **Journal of Cellular Biochemistry** 70:297-303.
151. Han, L, Lin, H, Head, M, Jin, M, Blank, M and Goodman, R (1998) Application of Magnetic Field-Induced Hsp70 for Pre-Surgical Cytoprotection. **Journal of Cellular Biochemistry** 71:577-583.
152. Blank, M and Soo, L (1998) Frequency Dependence of Cytochrome Oxidase Activity in Magnetic Fields. **Bioelectrochemistry and Bioenergetics** 46:139-143.
153. Lin, H, Blank, M and Goodman, R (1999) Magnetic Field-Responsive Domain in the Human HSP70 Promoter. **Journal of Cellular Biochemistry** 75:170-176.
154. Blank, M (1999) Mechanisms of Biological Interaction with Electric and Magnetic Fields. Plenary Lecture. Proceedings of Second World Congress for **Electricity and Magnetism in Biology and Medicine**. Bersani, editor, Plenum, pp. 21-25.
155. Goodman, R, Lin, H and Blank, M (1999) The Mechanism of Magnetic Field Stimulation of the Stress Response is Similar to other Environmental Stresses. Proceedings of Second World Congress for **Electricity and Magnetism in Biology and Medicine**. Bersani, editor, Plenum, pp. 179-182.
156. Blank, M and Goodman, R (1999) Electromagnetic Fields May Act Directly on DNA. **Journal of Cellular Biochemistry** 75:369-374.
157. Blank, M and Goodman, R (2000) Stimulation of the Cellular Stress Response by Low Frequency Electromagnetic Fields: Possibility of Direct Interaction with DNA. **IEEE Transactions on Plasma Science** 28:168-172.
158. Jin, M, Blank, M and Goodman, R (2000) ERK1/2 Phosphorylation, Induced by Electromagnetic Fields, Diminishes During Neoplastic Transformation. **Journal of Cellular Biochemistry** 78:371-379.
159. Carmody, S, Wu, XL, Lin, H, Blank, M, Skopicki, H and Goodman, R (2000) Cytoprotection by Electromagnetic Field-Induced hsp70: A Model for Clinical Application. **Journal of Cellular Biochemistry** 79:453-459.
160. Blank, M and Soo, L (2000) Electromagnetic Fields Accelerate Electron Transfer Reactions. **Proceedings of Third International Conference on Bioelectromagnetism**, pp. 161-162.
161. Goodman, R and Blank, M (2000) Biologically Based Safety Standards for Cell Phones: Discriminating between Heat and Magnetic Fields. **Proceedings of Third International**

- Conference on Bioelectromagnetism**, pp. 163-164.
162. Lin, H, Blank, M, Rossol-Haseroth, K and Goodman, R (2001) Regulating Genes with Electromagnetic Response Elements **Journal of Cellular Biochemistry** 81:143-148.
 163. Blank, M and Soo, L (2001) Electromagnetic Acceleration of Electron Transfer Reactions. **Journal of Cellular Biochemistry** 81: 278-283.
 164. Blank, M and Soo, L (2001) Optimal Frequencies in Magnetic Field Acceleration of Cytochrome Oxidase and Na,K-ATPase Reactions. **Bioelectrochemistry** 53: 171-174.
 165. Blank, M and Goodman, R (2001) Electromagnetic Initiation of Transcription at Specific DNA Sites. **Journal of Cellular Biochemistry** 81: 689-692.
 166. Blank, M and Goodman, R (2002) Interaction of Weak Low Frequency Electromagnetic Fields with DNA: Mechanism and Biomedical Applications. **IEEE Transactions on Plasma Science** 30: 1497-1500.
 167. Weisbrot, D, Lin, H, Ye, L, Blank, M and Goodman, R (2003) Effects of Mobile Phone Radiation on Reproduction and Development in *Drosophila melanogaster*. **Journal of Cellular Biochemistry** 89: 48-55.
 168. Blank, M and Goodman, R (2003) Stress Protein Synthesis and Enzyme Reactions are Stimulated by Electromagnetic Fields. In **Magnetotherapy: Potential Therapeutic Benefits and Adverse Effects**. Edited by MJ McLean, S Engström, RR Holcomb, Floating Gallery Press, New York, pp. 19-28.
 169. Blank, M and Soo, L (2003) Electromagnetic acceleration of Belousov-Zhabotinski reaction. **Bioelectrochemistry**, in press.
 170. Blank, M and Goodman, R (2003) Biomedical Applications of Electromagnetic Fields. **First International Workshop (2000) on Bioelectromagnetics**, in press

Book Reviews

1. "Recent Progress in Surface Science", Vol 1 and 2. Editors JF Danielli, GA Pankhurst and AC Riddiford. **The Quarterly Review of Biology** 40:400, 1965.
2. "Cell Membrane Transport", by A Kotyk and K Janacek. **Chemical Engineering** 78:118, 1971.
3. "Progress in Surface and Membrane Science", Volume 4. Editors JF Danielli, MD Rosenberg and DA Cadenhead. **Journal of Colloid and Interface Science** 40:130, 1972.
4. "Progress in Surface and Membrane Science", Volume 6. Editors JF Danielli, MD Rosenberg and DA Cadenhead. **Journal of Colloid and Interface Science** 47:267, 1974.
5. "Biological Horizons in Surface Science". Edited by LM Prince and DF Sears. **Journal of Colloid and Interface Science** 48:179, 1974.
6. "Biopolymers", by AG Walton and J Blackwell (with a contribution by SH Carr). **Journal of Colloid and Interface Science** 48:355, 1974.
7. "Applied Chemistry at Protein Interfaces". Edited by RE Baier. **Journal of Colloid and Interface Science** 57:190, 1976.
8. "Topics in Bioelectrochemistry and Bioenergetics", Volume 1. Edited by G Milazzo. **Journal of the Electrochemical Society** 125:66C, 1978.
9. "Electrical Phenomena at the Biological Membrane Level". Edited by E Roux. **Journal of Colloid and Interface Science** 66:374, 1978.
10. "Extracellular Microbial Polysaccharides". Edited by PA Sandford and A Laskin. **Journal of Electrochemical Society** 125:295C, 1978.
11. "Electrochemical Studies of Biological Systems". Edited by DT Sawyer. **Journal of the Electrochemical Society** 125:437C, 1978.
12. "Topics in Bioelectrochemistry and Bioenergetics", Volume 2. Edited by G Milazzo. **Journal of the Electrochemical Society** 126:267C, 1979.
13. "Metal Ions in Biological Systems, Volume 7: Iron in Model and Natural Compounds". edited by H Sigel. **Journal of the Electrochemical Society** 126:267C, 1979.
14. "Progress in Surface and Membrane Science", Volume 12, Edited by DA Cadenhead and JF Danielli. **Journal of Colloid and Interface Science** 72:367, 1979.
15. "Ions in Macromolecular and Biological Systems". Edited by DH Everett and B Vincent. **Quarterly Reviews of Biology** 54:498, 1980.
16. "Polarography of Molecules of Biological Significance". Edited by WF Smyth. **Journal of the Electrochemical Society** 127:240C, 1980.
17. "Topics in Bioelectrochemistry and Bioenergetics", Volume 3. Edited by G Milazzo. **Journal of the Electrochemical Society** 128:35C, 1981.
18. "Membrane Proteins". Edited by A Azzi, U Brodbeck and P Zahler. **Bioelectrochemistry and Bioenergetics** 9:535, 1982.
19. "Physical Chemistry of Transmembrane Ion Motions". Edited by G Spach. **Advances in Colloid and Surface Science** 20:165, 1984.
20. "Electrochemistry: The Interfacing Science". Edited by DAJ Rand and AM Bond. **Bioelectrochemistry and Bioenergetics** 13:496, 1984.
21. "Physical Chemistry of Membranes", by ME Starzak. **Journal of Colloid and Interface Science** 115:295, 1987.
22. "Magnetism in Medicine", Edited by W Andra and H Nowak **Bioelectrochemistry and Bioenergetics** 48:256, 1999.

Office of Naval Research (London) Publications: 1974-1975**"European Scientific Notes" Articles**

1. A Sweet Tasting Protein. 28-10:356.
2. Liposomes, Anesthesia and Deep Sea Diving. 28-11:393.
3. Bioelectrochemistry at the I.S.E. Meeting. 28-11:394.
4. The Second Aharon Katzir-Katchalsky Conference. 28-11:397.
5. The Influence of Gravity on Membranes. 28-12:449.
6. Biology at Queen Elizabeth College. 28-12:452.
7. Mosquito Control with Phospholipid Monolayers. 29-1:1.
8. Magnetic Fields and Nerve Function. 29-1:2
9. Oscillatory Phenomena. 29-2:44.
10. Review Meeting on Muscular Contraction. 29-2:46.
11. A European Science Foundation. 29-2:86.
12. Biorheology Congress at Rehovot. 29-3:102.
13. A Circadian Clock in the Red Cell Membrane. 29-3:103.
14. Biology at the Juelich Nuclear Research Center. 29-4:150.
15. The Laboratory of Membranes and Bioregulation. 29-4:152.
16. Medicine for Physiologists. 29-5:214.
17. Milestones at the University of Leiden. 29-5:216.
18. "Wellcome" Changes Medical Research Funding. 29-5:238.
19. Bioelectrochemistry at the Toronto Meeting. 29-6:250.
20. Physiology at Imperial College, London. 29-6:252.
21. A Professional Code for Chemistry (with B.R. Sundheim). 29-6:258.
22. Some Observations on Colloid Science and Molecular Biology. 29-7:291.
23. Membranes and Diseases. 29-8:336.
24. Biochemistry in Utrecht and Groningen. 29-8:339.
25. The Focus on Membranes at the Biophysics Congress. 29-9:378.
26. Interdisciplinary Approaches in Science. 29-9:397.

ONRL Reports

1. Medical Research Council Annual Report 1973-74 (with AW Frisch).
ONRL-R-8-74, dated 24 October 1974.
2. The Second Aharon Katzir-Katchalsky Conference on "Biopolymer Interactions",
Amsterdam, 2-6 September 1974.
ONRL-C-7-74, dated 9 November 1974.
3. Some Biophysical and Biochemical Research in Israel.
ONRL-R-7-75, dated 12 June 1975.
4. Interdisciplinary Approaches in Science - Bioelectrochemistry and Biorheology
as New Developments in Physiology.
ONRL-R-12-75, dated 23 July 1975.
5. Current Research On Natural Membranes.
ONRL-R-15-75, dated 11 September 1975.
6. The Fifth International Biophysics Congress: Four Views (with JW Twidell, RJ Werrlein and JB
Bateman).
ONRL-C-10-76, April 1976.

Office of Naval Research (London) Publications: European Scientific Notes (1976-1985)

1. Polymer Chemists Meet in Prague. 30-9:396, 1976
2. Meeting in Stockholm: Surface and Colloid Science. 33-11:455, 1979.
3. Bioelectrochemistry in Weimar. 33-12:495, 1979.
4. Bioelectrochemistry and Bioenergetics VI. 35-9:331, 1981.
5. Surface and Colloid Science. 35-9:335, 1981.
6. Bioelectrochemistry at Erice, Sicily 36-2:28, 1982.
7. Biophysics of Cell Surface - An International Meeting 36-2:30, 1982.
8. Bioelectrochemistry Symposium in Stuttgart 37-12:439, 1983.
9. Bioelectrochemistry Meeting in Erice. 39-4:136, 1985.
10. Bioelectrochemistry, Bioenergetics, and Bioelectromagnetics in Bologna
(with H Wachtel and T Barrett) 39-12:541, 1985.

Consultant to Private Corporations

California Research Corp.
Esso Research and Engineering Co.
Unilever Research Labs
Procter and Gamble Co.
Electro-Biology Inc.
Lever Brothers Co.
Electric Power Research Institute (EPRI)
Pfizer, Hospital Products Group
SENMED Medical Ventures, Sentron Medical, Inc.
Leigh, Day & Co., Solicitors, London, England

Scientific Reports for Industry

1. Blank, M and Criddle, DW (1956) Viscosity and Elasticity of Mercury-Oil Interfaces. California Research Corp. Rheological properties of the interfacial films adsorbed at an oil-metal interface
2. Blank, M (1957) Preliminary Studies on Corrosion Inhibition in Non-Aqueous Systems. Esso Research and Engineering Co. Light scattering and conductivity of micellar solutions in oils.
3. Blank, M (1964) Interfacial Potentials in Liquid/Liquid Systems. Unilever Research Lab. Effects of surface charge on magnitudes and stability of oil/water interfacial potentials.
4. Blank, M (1969) The Permeabilities of Protein Monolayers to Water. Unilever Research Lab, 1969. Protein film adsorption, drainage and permeability.
5. Evans, E and Blank, M (1980) A Model Menses System: Interactions with Non-Biological Surfaces. Procter and Gamble Company. Physical factors affecting adsorption at non-biological surfaces.